

PATENT
Customer Number 22,852
Attorney Docket No. 7040.0083.00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Marco NAHMIAS NANNI et al.)
Serial No.: Not yet assigned) Group Art Unit: Not yet assigned
Filed: April 27, 2001) Examiner: Not yet assigned
For: TIRE AND METHOD OF MAKING)
SAME)

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Prior to the examination of the above-captioned application, please amend this application as follows:

IN THE SPECIFICATION:

Please amend the specification, as follows:

Remove “BACKGROUND ART” and “Technical Field” and add two section headings, a section subheading, and a paragraph immediately after the title TIRE AND METHOD OF MAKING SAME, as follows:

--CROSS-REFERENCES TO RELATED APPLICATIONS

This application is a continuation of International Patent Application No. PCT/EP99/08065, filed October 26, 1999, in the European Patent Office; additionally, Applicants claim the right of priority under 35 U.S.C. § 119(a) - (d) based on patent application No. 98120357.3, filed October 28, 1998, in the European Patent Office; further, Applicants claim the benefit under 35 U.S.C. § 119(e) based on prior-filed, copending provisional application No. 60/106,627, filed November 2, 1998, in the U.S. Patent and Trademark Office; the contents of all of which are relied upon and incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of the Invention--

Page 4, line 7, remove "Disclosure of the Invention" and add section heading --

SUMMARY OF THE INVENTION-- prior to the start of the paragraph beginning "The present invention concerns . . ."

Add a new Page 23 after the claims, adding the following ABSTRACT OF THE DISCLOSURE. A new, separate Page 23 is enclosed.

--ABSTRACT OF THE DISCLOSURE

A pneumatic tire for vehicle wheels includes a radial carcass, a tread band, sidewalls and beads, and a belt structure. The tread band is provided with grooves on its surface for coming into contact with the ground and situated on a radial outer surface of the carcass. The sidewalls and beads anchor the tire on a wheel rim. The belt structure is disposed between the tread band

LAW OFFICES
INNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000

and the carcass. Additionally, a fiber-reinforced elastomeric intermediate layer is placed between the belt structure and the tread band. Methods for manufacturing the pneumatic tire are also disclosed.--

IN THE CLAIMS:

Please amend claims 1-10, 13-20, and 22-24, as follows:

1. (once amended) A pneumatic tire for vehicle wheels, comprising:
 - a radial carcass;
 - a tread band provided with grooves on a surface of the tread band for coming into contact with the ground and situated on a radial outer surface of the carcass;
 - sidewalls and beads for anchorage of the tire on a wheel rim; and
 - a belt structure between the tread band and the carcass;
 - wherein a fiber-reinforced elastomeric intermediate layer is placed between the belt structure and the tread band.
2. (once amended) The tire of claim 1, wherein the fiber-reinforced elastomeric intermediate layer comprises a compound material and short reinforcing fibers.
3. (once amended) The tire of claim 2, wherein the short reinforcing fibers comprise an aramid polymer.

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4. (once amended) The tire of claim 2, wherein the short reinforcing fibers are oriented at an angle of substantially 0° with respect to an equatorial plane of the tire.

5. (once amended) The tire of claim 2, wherein the compound material comprises one or more of natural rubber, isoprene rubber, emulsion-polymerized styrene butadiene rubber, solution polymerized styrene butadiene rubber, or butadiene rubber.

6. (once amended) The tire of claim 2, wherein a concentration of the short reinforcing fibers in the compound material is between about 5 phr and 15 phr.

7. (once amended) The tire of claim 2, wherein a concentration of the short reinforcing fibers in the compound material is between about 7 phr and 11 phr.

8. (once amended) The tire of claim 1, wherein the fiber-reinforced elastomeric intermediate layer is incorporated into the tread band.

9. (once amended) The tire of claim 2, wherein the compound material comprises greater than about 50% natural rubber.

10. (once amended) The tire of claim 2, wherein the compound material comprises a concentration of carbon black between about 20 phr and 80 phr.

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& DUNNER, L.L.P.
1300 I STREET, N.W.
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13. (once amended) The tire of claim 1, wherein the fiber-reinforced elastomeric intermediate layer has, in cross-section, two edge portions thicker than a central portion.

14. (once amended) The tire of claim 13, wherein the two edge portions are both between about 25% to 75% thicker than the central portion.

15. (once amended) The tire of claim 13, wherein the two edge portions are both about 33% thicker than the central portion.

16. (once amended) The tire of claim 13, wherein the fiber-reinforced elastomeric intermediate layer has a width, the two edge portions each comprise about 2/7ths of the width, and the central portion comprises a remaining about 3/7ths of the width.

17. (once amended) The tire of claim 1, wherein the belt structure comprises at least one layer of rubberized fabric comprising cords that crisscross each other and are angled with respect to an equatorial plane of the tire.

18. (once amended) The tire of claim 1, wherein the tire does not include a layer of rubberized fabric with longitudinal reinforcing cords lying at an angle of substantially 0° with respect to an equatorial plane of the tire.

19. (once amended) The tire of claim 1, wherein the tire excludes one or more of: a rubber sheet, a 0 degree layer, or an underlayer.

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& DUNNER, L.L.P.
1300 I STREET, N.W.
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20. (once amended) The tire of claim 1, wherein the fiber-reinforced elastomeric intermediate layer is an only layer placed between the belt structure and the tread band.

22. (once amended) The method of claim 21, wherein the method excludes incorporation of one or more of: a rubber sheet, a nylon layer, or an underlayer.

23. (once amended) A method of manufacturing a tire comprising at least one belted layer, a tread band above the at least one belted layer, and a fiber-reinforced elastomeric intermediate layer disposed below the tread band and above the at least one belted layer, comprising the steps of:

providing the at least one belted layer;

extruding the fiber-reinforced elastomeric intermediate layer together with the tread band to form a co-extruded product wherein the fiber-reinforced elastomeric intermediate layer is incorporated into a bottom surface of the tread band; and

disposing the co-extruded product on an upper surface of the at least one belted layer.

24. (once amended) The method of claim 23, wherein the method excludes incorporation of one or more of: a rubber sheet, a 0 degree layer, or an underlayer.

REMARKS

Applicants submit this Preliminary Amendment together with a continuation application under 37 C.F.R. § 1.53(b). Claims 1-24 are pending in this application.

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
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In this Amendment, Applicants add section headings, section subheadings, and an Abstract of the Disclosure to conform to U.S. practice. Additionally, Applicants amend claims 1-10, 13-20, and 22-24, which include the same subject matter as the original claims, to improve clarity. The originally-filed specification, claims, abstract, and drawings fully support the amendments to the specification and claims. No new matter was introduced.

If there is any fee due in connection with the filing of this Preliminary Amendment, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: April 27, 2001

By:


Lawrence F. Galvin
Reg. No. 44,694

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000

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APPENDIX TO PRELIMINARY AMENDMENT DATED APRIL 27, 2001

Amendments to the Claims

Please amend claims 1-10, 13-20, and 22-24, as follows:

1. (once amended) A pneumatic tire for vehicle wheels [which comprises], comprising:
a radial carcass[,];
a tread band[,] provided with grooves on [its] a surface[,] of the tread band for coming into contact with the ground and situated on [the carcass] a radial outer surface[,] of the carcass;
sidewalls and beads for anchorage of the tire on a wheel rim[,]; and
a belt structure between the tread band and the carcass[,];
[the tire being characterized in that] wherein a fiber-reinforced elastomeric intermediate layer is placed between [said] the belt structure and [said] the tread band.
2. (once amended) The tire of claim 1, wherein the fiber-reinforced elastomeric intermediate layer comprises a compound material[,] and short reinforcing fibers.
3. (once amended) The tire of claim 2, wherein the short reinforcing fibers comprise[s] an aramid polymer.

4. (once amended) The tire of claim 2, wherein the short reinforcing fibers are oriented at an angle of substantially 0° with respect to an equatorial plane of the tire.

5. (once amended) The tire of claim 2, wherein the compound material [is selected from] comprises one or more of natural rubber, isoprene rubber, emulsion-polymerized styrene butadiene rubber, solution polymerized styrene butadiene rubber, [and] or butadiene rubber.

6. (once amended) The tire of claim 2, wherein [the] a concentration of the short reinforcing fibers in the compound material is between about 5 phr and 15 phr.

7. (once amended) The tire of claim 2, wherein [the] a concentration of the short reinforcing fibers in the compound material is between about 7 phr and 11 phr.

8. (once amended) The tire of claim 1, wherein the fiber-reinforced elastomeric intermediate layer is incorporated into [said] the tread band.

9. (once amended) The tire of claim 2, wherein the compound material comprises greater than about [50 %] 50% natural rubber.

10. (once amended) The tire of claim 2, wherein the compound material comprises a concentration of carbon black [is] between about 20 phr and 80 phr.

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INNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
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13. (once amended) The tire of claim 1, wherein the fiber-reinforced elastomeric intermediate layer has, in cross-section, two edge portions [being] thicker than a central portion.

14. (once amended) The tire of claim 13, wherein the two edge portions are both between about [25 %] 25% to [75 %] 75% thicker than the central portion.

15. (once amended) The tire of claim 13, wherein the two edge portions are both about [33 %] 33% thicker than the central portion.

16. (once amended) The tire of claim 13, wherein the fiber-reinforced elastomeric intermediate layer has a width, the two edge portions each comprise about 2/7ths of the width, and the central portion comprises [the] a remaining about 3/7ths of the width.

17. (once amended) The tire of claim 1, wherein [said] the belt structure comprises at least one layer[s] of rubberized fabric comprising cords that crisscross each other and are [both] angled with respect to an equatorial plane of the tire.

18. (once amended) The tire of claim 1, wherein [is absent] the tire does not include a layer of rubberized fabric with longitudinal reinforcing cords lying at an angle of substantially 0° with respect to an equatorial plane of the tire.

19. (once amended) The tire of claim 1, wherein the tire excludes one or more of [layer selected from the group comprising]: a rubber sheet, a 0 degree layer, [and] or an underlayer.

20. (once amended) The tire of claim 1, wherein [said] the fiber-reinforced elastomeric intermediate layer is [the] an only layer placed between [said] the belt structure and [said] the tread band.

22. (once amended) The method of claim 21, wherein the method excludes [the] incorporation of one or more [selected from the group comprising] of: a rubber sheet, a nylon layer, [and] or an underlayer.

23. (once amended) A method of manufacturing a tire comprising at least one belted layer, a tread band above the at least one belted layer, and a fiber-reinforced elastomeric intermediate layer disposed below the tread band and above the at least one belted layer, comprising the steps of:

providing the at least one belted layer;

extruding the fiber-reinforced elastomeric intermediate layer together with the tread band to form a co-extruded product wherein the fiber-reinforced elastomeric intermediate layer is incorporated into a bottom surface of the tread band; and

disposing the co-extruded product on an upper surface of the at least one belted layer.

24. (once amended) The method of claim 23, wherein the method excludes incorporation of one or more of [layer selected from the group comprising]: a rubber sheet, a 0 degree layer, [and] or an underlayer.

LAW OFFICES
MCNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000